

14 October 2011

Dr. James Barlow  
Chief, Special Projects and Policy Team  
U.S. Army Corps of Engineers  
P. O. Box 60267  
New Orleans, LA 70160-0267

RE: I-12 to Bush Highway Proposed Routes P, J, Q and B/O and Talisheek Pine Wetlands  
Mitigation Bank Unit (2): Response to 09/20/11 email.

Dear Dr. Barlow:

This letter is in response to your follow-up email requesting additional information regarding reduced ability to manage wetlands on the Talisheek bank site and the potential for lost mitigation. Specifically you asked the following: *"To assist us in determining the amount of credits lost in the bank, we request that you identify (1) the area of reduced management, (2) the location and width of the 3.5 miles of additional fire lanes and method of establishment, (3) the expected time for these fire lanes to recover to a savanna habitat, (4) their impact on the landscape (reduced forest size, impediment to sheet flow, change in habitat type, etc.) and (5) anything else that you think will help our evaluation."* Our response is below in differing order, but with numbers that correspond to yours.

**2) Location and width of additional fire lanes and method of establishment.** Attached is a map of proposed new fire lines should Alternatives J, P or Q be built. Total length of the fire lines is 19,167 feet (3.6 miles), with average width approximately 10 feet. The total foot-print of the new fire lines would be 4.4 acres. Method of establishment is primarily by brush-cutting with tracked machinery and blowing with an industrial blower pulled by an ATV.

**3) Expected time for these fire lanes to recover to a savanna habitat.** Variable, depending on initial habitat and condition, but average is estimated at 6 months.

**4) Their impact on the landscape (reduced forest size, impediment to sheet flow, change in habitat type, etc.).** This method of line establishment avoids total habitat loss, reduces erosion and hydrologic impacts, and minimizes opportunity for invasive species establishment. It does alter habitat structure in some cases type, by eliminating overstory and understory woody vegetation. This method of fire line establishment has more impact on bayhead and slash pine/pond cypress communities than on longleaf pine savanna habitat, which is naturally more open. Some rare or sensitive species may be impacted, particularly woody species. It does require more staff on the line during prescribed burns.

**1) Area of reduced management.** The area of reduced fire management is important to assess, and is discussed as follows.

a) Direct footprint of fire line – As discussed above, the direct impact of the new fire lines will be approximately 4.4 acres. Although these areas will be maintained mechanically as open habitat, they will rarely receive fire since only the edge of the line is ignited and is soon extinguished as it backs further into the fire line. Data has shown that in grassland communities, mechanical treatment does not fully compensate for all the benefits of fire. In addition, these areas will receive ATV patrol traffic during prescribed burns, which can result in some additional negative impacts from trampling every time we burn.

b) Edge effect of fire lines - Additional firebreaks reduce the effectiveness of the burns in several ways. One is what we call the “edge effect.” The first ten feet or so off a firebreak never gets good effect regardless of whether it’s a head fire, backing fire or flanking fire. This is partly because of the adjacent cool firebreak, decreased amount of time exposed to flame, and because the fuels are not preheated by approaching flames. When we install a new firebreak on the interior of a unit we create two new “edges” on either side of the line so we have to count the interior line length twice to measure impacts.

With an estimated “edge” width of ten feet, we would have a total of 7.5 acres impacted by the edge effect of new fire lines at Talisheek, calculated as follows:

- Length of new exterior firebreak with one edge (exterior line)
  - o 5650feet
  - o  $5650 \text{ ft} \times 10\text{ft} = 56500 \text{ square feet}$
  - o 1.3 acres of reduced effect due to edge
- Length of new interior firebreaks with two edges (interior lines)
  - o 13517 feet
  - o  $13517\text{ft} \times 2 \times 10\text{ft} = 270,340 \text{ feet square}$
  - o 6.2 acres of reduced effect due to edges

c) Cooler fire effects - Another factor in which new fire lines can reduce fire effect is the increased amount of acres that receive backing fire as opposed to typically more effective flanking/heading fire. Backing fires are usually allowed to spread for 100 feet or so to ensure enough black line before the flanking/heading fires are set. Approximately 100 feet of habitat along 8500 feet of firebreak, that does not currently receive backing fire, will receive backing fire in the future. .

With an estimated impact distance of 100 feet along 8500 feet of newly installed fire lines, we would have a total of 19.5 acres impacted by cooler fire effects at Talisheek, calculated as follows:

- $8500\text{ft} \times 100\text{ft} = 850,000\text{feet square of backing fire}$
- 19.5 acres of reduced quality prescribed fire

d) Reduced fire frequency – As we discussed in our letter of 25 July 2011, the fire units at Talisheek will be affected in varying ways depending on their location. Reasons include reductions in variability of wind vectors, thunderstorm and fog probability, and fire weather Category Days that we may use. Combined, these factors may significantly reduce opportune

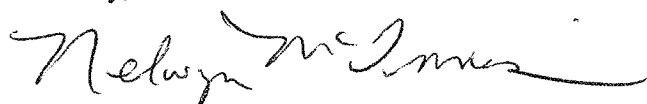
burn days and change our burning regime from 2 – 3 year intervals to 3 – 4 year intervals or longer. In addition, other impacts may occur, such as not being able to get as much fire penetration in drainages with limited wind direction for head fires. The Nature Conservancy will try to compensate for these less frequent, lower intensity burns by using mechanical treatment and/or herbicide treatment where needed; however, these treatments may not take place as often as needed unless additional funding is provided, and even so it would not fully compensate for all the benefits of prescribed fire. It is anticipated that eastern units will have the highest reduction in available burn days, and thus will be impacted the most with the proposed project. This includes Units 3, 5, 7, 8, 9 and 11 (McCulla tract), or approximately 54% of the Talisheek bank unit totaling about 1590 acres. This acreage excludes the 80A McCulla tract, which is part of our preserve, but is a permittee responsible mitigation area. The western units will also be impacted; however those impacts are anticipated to be less than the eastern units. The eastern units T1, T1a, T2, T2a, T4 and T10, comprise 1340 acres or approximately 46% of the bank.

**5) Summary/Other comments.** As discussed above, the entire bank will be impacted to some degree. That said, determining acres impacted is easier than it is to assess the amount of lost mitigation value for these areas. Should the MCM method be utilized to determine lost mitigation potential, we request that since an MCM credit ratio has not been established for the Talisheek Bank, that you use a ratio similar to that established for the Bayou Lacombe Addendum and Mossy Hill banks, as these banks had ratios assigned during the period in which credits were still available at Talisheek, and because these banks are relatively close to the Talisheek site and the habitats and site conditions are similar requiring comparable restoration activities.

Other issues mention in our 25 July 2011 letter should also be considered when assessing lost mitigation potential. This includes impacts from hydrologic changes, air and water pollution, impacts to wildlife, and invasive species impacts.

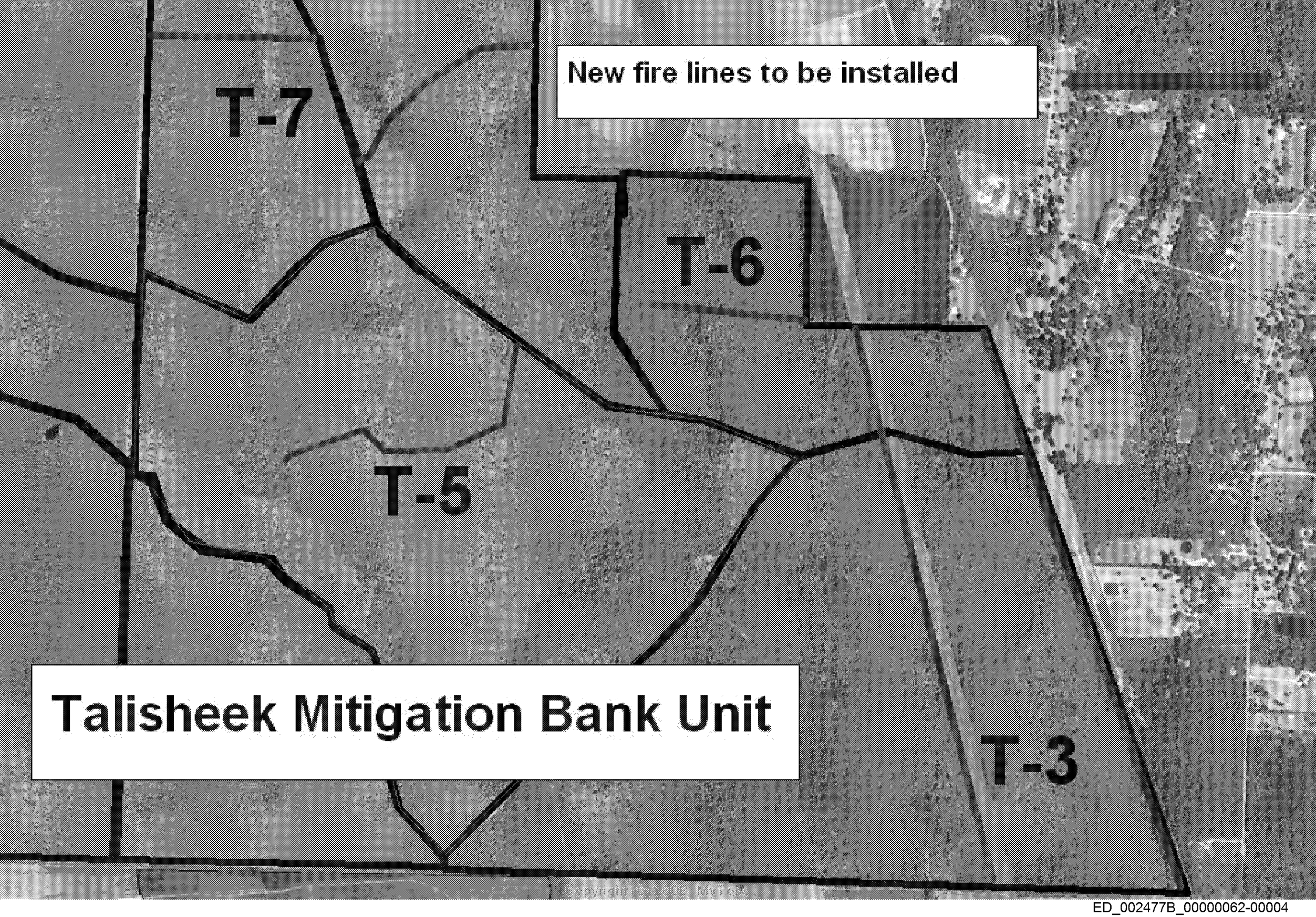
James, we hope this information will be helpful in your assessment.

Sincerely,

A handwritten signature in black ink, appearing to read 'Nelwyn McInnis', with a stylized, flowing script.

Nelwyn McInnis  
Mitigation Program Manager





New fire lines to be installed

**T-7**

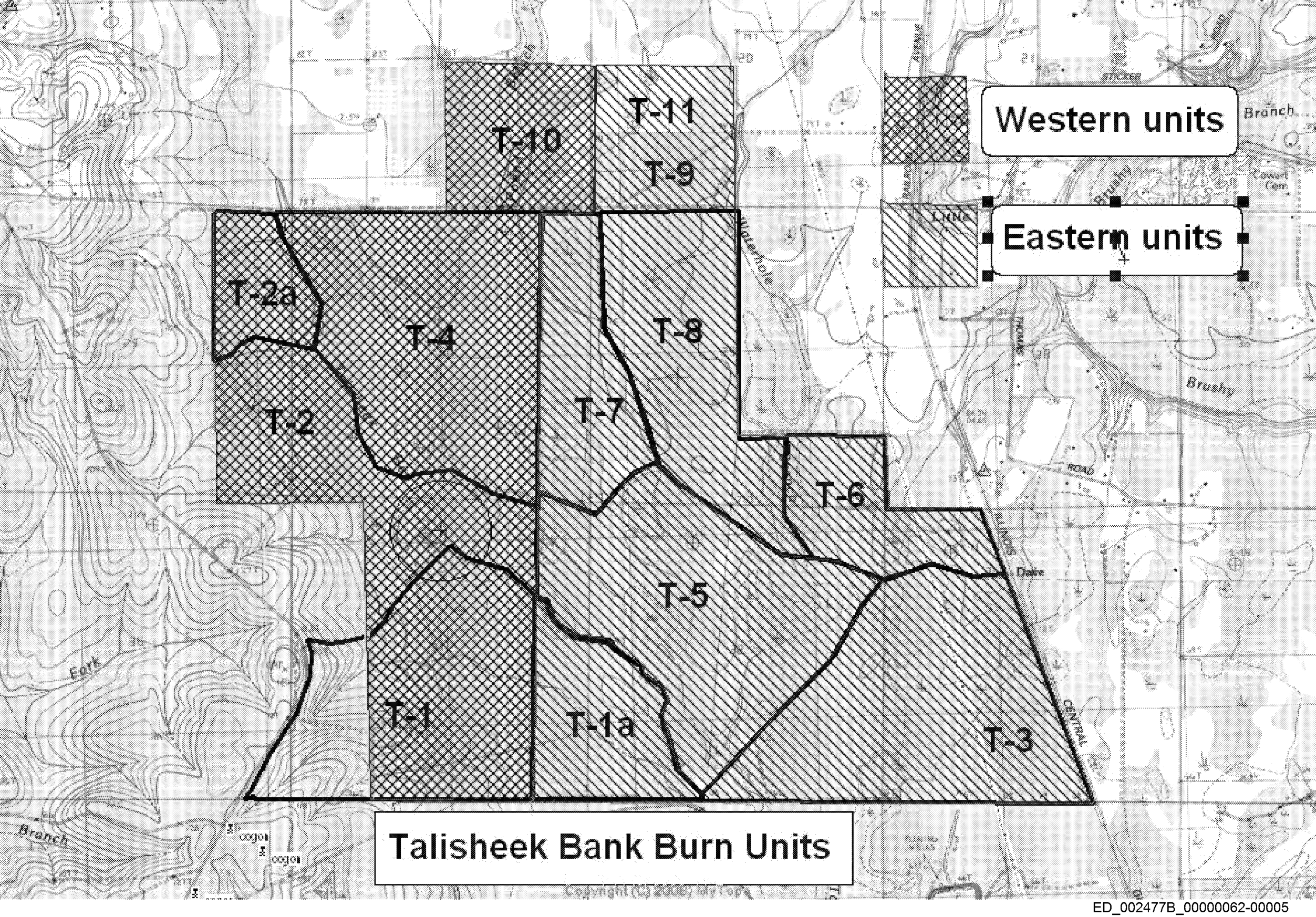
**T-6**

**T-5**

**Talisheek Mitigation Bank Unit**

**T-3**





Western units

Eastern units

Talisheek Bank Burn Units